

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of :
David E. Albrecht :
Serial No.: 09/443,793 : Examiner: Alison K. Pickard
Filed: November 18, 1999 :
Title: FLANGE PLATES FOR : Art Unit: 3673
FLUID PORT INTERFACES :
Attorney Docket No.: 505-02 :
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REPLY BRIEF FOR APPELLANT

Appellant submits this Reply Brief in response to the Examiner's Answer mailed April 29, 2008.

In this Reply Brief, Appellant will not repeat in detail the arguments contained in the main brief, and in prior Amendments, regarding the high-pressure hydraulic flange connection of this invention. Instead, Appellant will respond to specific new arguments made by the Examiner.

1. The Multi-Component Seal of Breaker

Appellant has argued that Breaker does not show a one-piece seal. The Examiner has argued (on page 8 of the Examiner's Answer) that Breaker shows a one-piece seal, and that element 2128 is not a seal but a spring.

The spring identified by the Examiner is described, by Breaker, as an elastomeric O-ring. It is an integral part of the seal. Viewed as a whole, the system of Breaker is really a two-piece seal. In Figure 29, these pieces include the elastomeric O-ring 2128 and the seal jacket 2126.

The present claims require a one-piece seal.

Appellant notes further that the basic teaching of Breaker is the use of a compressible seal. Many of the seals shown in Breaker are therefore described as "springs".

Clearly, Breaker shows a seal having multiple parts, which is in contrast to the claimed invention.

2. The Structural Nature of the Support Ring

In distinguishing over Barbarin, Appellant has argued that the support ring is a structural member, in contrast with the plastic ring disclosed in Barbarin. The Examiner argues (on page 9 of the Examiner's Answer) that the plastic ring of Barbarin is a support member, citing a passage from Barbarin.

But the last sentence of the passage cited by the Examiner (column 2, lines 20-22) casts doubt on the Examiner's interpretation. In particular, the last sentence says that the components are held together so that they can be stored as a unit. In other words, the plastic ring helps to hold the components together during storage. But the passage says nothing about the plastic ring providing structural support when the components are in actual use. Absent a more specific teaching than the above, Appellant submits that the fair inference to be made from the disclosure of Barbarin is that the ring is intended as a non-structural member.

Moreover, the plastic ring of Barbarin is thinner than the outer rings 13 and 14. Because it is thinner, the plastic ring will provide no support to caps 3 and 4 until loading sufficient to cause significant deformation brings these structures into contact with the plastic ring. Thus, no

support will be provided, regardless of the composition of the ring, until these structures have been significantly deformed.

By contrast, the support ring of the present invention provides a relatively large contact area between opposing fluid components, so as to support those components when they are assembled prior to introducing high-pressure hydraulic fluid.

Appellant does not dispute that some plastics can be hard enough to provide structural support. The major arguments in this appeal are not based on choice of materials. Since Barbarin teaches that the inner ring is thinner than the outer rings, the patent teaches that the inner ring cannot provide structural support unless caps 3 and 4 are sufficiently deformed. The fact that the material of the inner ring is disclosed to be plastic argues further against a teaching of structural support.

3. The Patent to Johnson, and the Issue of Non-Analogous Art

Appellant has argued against the applicability of the patent to Johnson, because it deals with waveguides, and is therefore non-analogous art. The Examiner dismisses this argument (on page 10 of the Examiner's Answer) on the ground that the claims do not limit the invention to a hydraulic system.

While it is true that the claims do not contain such limitation, it is clear, from a reading of the present disclosure as a whole, that a waveguide is not within the purview of the present invention.

Moreover, even if the present claims were deemed to cover a waveguide, this fact would not support the Examiner's argument. The Examiner has applied Johnson as part of a combination of references under Section 103. In every case, the Examiner combines Johnson, which deals with waveguides,

with other references which deal with hydraulics. Regardless of how the present claims are interpreted, it is improper to combine a reference dealing with waveguides with a reference dealing with hydraulic fluids.

In Johnson, the inner part 29 is slightly thicker than the outer part 33 (column 3, lines 28-31). This means that the outer part will not participate in the pre-loading of the joint until either the inner part is sufficiently compressed, or the flange faces 13 and 15 are sufficiently deformed, or a combination of both. Moreover, the inner and outer parts are made of dissimilar materials, and would not participate equally in pre-loading of the joint even if their thicknesses were equal. The geometry of Johnson is therefore wholly inappropriate for use in a high-pressure hydraulic system, and it would not be obvious to combine Johnson with a reference dealing with hydraulic systems.

Appellant submits that a person of ordinary skill would not think of combining one reference, from the field of hydraulic fluid technology, with another reference which relates to waveguides. The Examiner's argument about the content of the present claims is really irrelevant to the issue of whether it is logical to combine references from unrelated fields.

4. Irrelevance of the Jones Patent

Appellant has argued that the orifice in Jones is not oriented in the manner required by the present claims. In response, the Examiner asserts (on page 10 of the Examiner's Answer) that Appellant is arguing portions of the vessel upon which the Examiner does not rely. Specifically, Appellant has referred to the passages 2 and 3, and member 12 and element 7, while the Examiner has focused her argument on orifice 39 located in a different

part of the apparatus.

But the Examiner overlooks the "big picture". The present claims define a geometry which implicitly requires that the support ring and the orifice be positioned near the main flow of fluid, i.e. the fluid flow between two fluid components which will abut the claimed plate. In Jones, the main flow of fluid occurs through passages 2 and 3. The structure relied upon by the Examiner is nowhere near the main flow, and has little or no relevance to the present invention. Indeed, Appellant submits that it would take an extraordinary leap of imagination to derive the present invention from the patent to Jones.

Appellant has also argued that since the portion of Jones, relied upon by the Examiner, is intended only as a temporary structure, it does not suggest the permanent structure of the present invention. The Examiner has also dismissed this argument (page 11 of the Examiner's Answer), stating that the duration of the seal is irrelevant. But Appellant submits that the fact that the seal is temporary militates against a conclusion of obviousness. A person of ordinary skill in the art would not have reason to try this structure, precisely because the reference teaches that the structure is temporary. Thus, even if the teaching of Jones could even be applied in the entirely different context of the present invention, it would not be obvious to try.

5. Non-Applicability of Aichroth

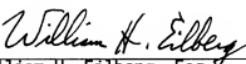
Appellant has made two main arguments regarding Aichroth, namely that Aichroth does not fairly show a "plate", and that it would not be obvious to provide holes in the thin structure shown in the patent. The Examiner dismisses these arguments on page 12 of the Examiner's Answer.

First, the Examiner continues to argue that, since the claims do not define the geometrical limitations of the term "plate", element 26 of Aichroth is a "plate". Appellant submits that this is an unreasonable argument. Appellant submits that Figure 1 of Aichroth speaks for itself. A quick glance at Figure 1 of Aichroth should confirm that Aichroth does not show a "plate". The Examiner's characterization of element 26 as a "plate" is therefore unreasonable.

Secondly, the Examiner continues to argue that it would be obvious, and desirable, to form bolt holes in the narrow structure of Aichroth. Appellant reminds the Board that Aichroth provides specific dimensions (see Figure 12) for the components shown in the drawings. It is inconceivable that a person of ordinary skill, or anyone else, would be motivated to punch holes in the very narrow structures contemplated by Aichroth. Appellant submits that the Examiner's arguments, regarding this reference, are contrary to reason, and contrary to the explicit teachings of the reference.

For the reasons given above, and in the main brief, Appellant urges reversal of the rejection, and requests early allowance of the claims on appeal.

Respectfully submitted,



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